PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE MODIFICATION OF THE EXISTING TRAFFIC SIGNAL AT THE INTERSECTION OF CEDAR LANE AT MD 32 WB RAMPS IN HOWARD COUNTY. CEDAR LANE IS CONSIDERED TO RUN IN A NORTH/SOUTH DIRECTION.

INTERSECTION OPERATION

A NEW SYSTEM CONTROLLER HOUSED IN A BASE MOUNTED "S' CABINET WITH UPS SHALL BE INSTALLED AT THIS LOCATION. THE INTERSECTION WILL CONTINUE TO OPERATE IN A FULLY ACTUATED MODE USING 4 NEMA PHASES. THERE IS AN EXCLUSIVE/PERMISSIVE LEFT TURN PHASE FOR THE NORTHBOUND MOVEMENT OF CEDAR LANE. THE CEDAR LANE THROUGH MOVEMENTS OPERATE CONCURRENTLY. THE MD 32 WB OFF RAMP MOVEMENT OPERATES ALONE.

SPECIAL NOTES

1. ALL INTERNAL CABINET WIRING SHALL BE PERFORMED BY THE SHA SIGNAL SHOP. CONTRACTOR SHALL CONTACT ED RODENHIZER 72 HOURS PRIOR TO CONSTRUCTION.

PHONE: (410) 787-7652

MR. JOHN CONCANNON. ASSISTANT DISTRICT ENGINEER - TRAFFIC PHONE: (301) 624-8140 MR. JOHN HUCHROWSKI. ASSISTANT DISTRICT ENGINEER - CONSTRUCTION PHONE: (301) 624-8200 MS. SUE PALMER, ASSISTANT DISTRICT ENGINEER - MAINTENANCE PHONE: (301) 624-8105 MS. ANDREA ABEND. UTILITY ENGINEER

PHONE: (301) 624-8115. MR. AVIJIT MAJI. CHIEF. TRAFFIC OPERATIONS DIVISION PHONE: (410) 787-7630 MR. EDWARD RODENHIZER, SUPERVISOR, SIGNAL OPERATIONS

#### EQUIPMENT LIST

- A. EQUIPMENT TO BE SUPPLIED BY THE MARYLAND STATE HIGHWAY ADMINISTRATION.
- B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

QUANTITY	UNITS	DESCRIPTION

MAINTENANCE OF TRAFFIC

LUMP SUM

EA \ 27 FT. STEEL MAST ARM POLE WITH 70 FT. MAST ARM

20 FT. LUMINAIRE ARM

LED LUMINAIRE

STANDARD S.H.A. TRAFFIC SIGNAL CONTROLLER, BASE MOUNTED NEMA "S" CABINET WITH UNINTERRUPTIBLE POWER SUPPLY, VIDEO DETECTION INTERFACE, TELEMETRY INTERFACE, AND ONE(1) FOUR-CHANNEL LOOP DETECTOR AMPLIFIER [Note: CONTROLLER AND CABINET SHALL BE PURCHASED FROM ECONOLITE AND DELIVERED TO THE S.H.A. SIGNAL SHOP FOR WIRING AND TESTING. CONTACT MR. ED RODENHIZER (410) 787-7650]

3 EA VIDEO DETECTOR CAMERA (TERRA)

420 VIDEO DETECTOR CAMERA CABLE

12 IN. 3-SECTION LED SIGNAL HEAD - MAST

12 IN. 3-SECTION LED SIGNAL HEAD (RA.YA.GA) - MAST

12 IN./8 IN. 5-SECTION LED SIGNAL HEAD - MAST

12 IN. 5-SECTION LED SIGNAL HEAD - MAST

30 IN. X 54 IN. R3-5( MOD) REGULATORY SIGN - MAST ARM

32 IN. X VAR. D3-1 SIGN - MAST ARM

72 IN. X 42 IN. D1-1(1)(MOD) SIGN - POLE

TEST PIT EXCAVATION

HANDHOLE

150 SAWCUT FOR SIGNAL LOOP DETECTOR

395 LOOP DETECTOR WIRE ENCASED IN FLEXIBLE TUBING

1 IN. LIQUID TIGHT FLEXIBLE CONDUIT FOR DETECTOR SLEEVE

35 LF 1-CONDUCTOR CABLE (NO. 8 AWG)

2-CONDUCTOR TRAY CABLE (NO. 12 AWG) 595

80 5-CONDUCTOR CABLE (NO. 14 AWG)

1260 7-CONDUCTOR CABLE (NO. 14 AWG)

40 BARE COPPER GROUND WIRE (NO. 6 AWG)

2 IN. PVC CONDUIT [SCHEDULE 80] - TRENCHED 25

3 IN. PVC CONDUIT [SCHEDULE 80] - TRENCHED 4 IN. PVC CONDUIT [SCHEDULE 80] - TRENCHED

200 4 IN. PVC CONDUIT [SCHEDULE 80] - BORED

CONCRETE FOUNDATION FOR TRAFFIC SIGNAL EQUIPMENT 6.5 CY

GROUND ROD -3/4IN. X 10 FT. LENGTH

24 IN. WHITE THERMOPLASTIC PAVEMENT MARKING - STOP LINE

RELOCATE EXISTING MAST ARM MOUNTED SIGN.

LUMP SUM RELOCATE EXISTING TRAFFIC SIGNAL CABLES (approx 1500 LF)

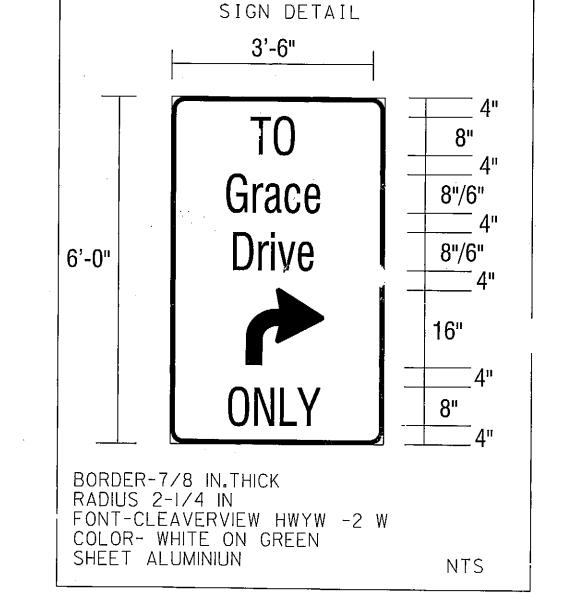


The Traffic Group, Inc. 9900 Franklin Square Drive Baltimore, Maryland 21236 410-931-6600 1-800-583-8411

Fax 410-931-6601

PROFESSIONAL CERTIFICATION HEREBY CERTIFY THAT THESE PLANS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. \_ 333/£ 



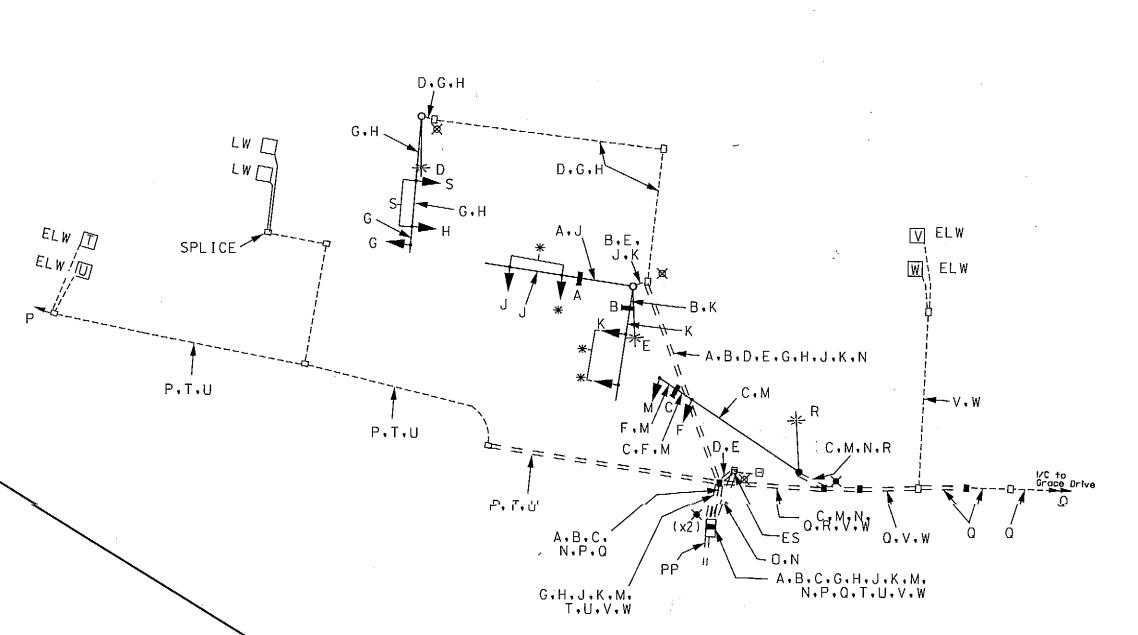


## **Phase Chart**

2 3 4 5

PHASE 1 AND 6	<b>←</b> G/G	<b>←</b> G⁄G	G	R	R	R	R	-R→	R <b>→</b>	<sup>+</sup>
1 CHANGE	<b>←</b> Y/G	<b>←</b> Y/G	G	R	R	R	R	- R <b>→</b>	~R <b>→</b>	
PHASE 2 AND 6	G	G	G	G	G	R	R	-R+	–R <b>→</b>	<b>→</b>
2 AND 6 CHANGE	Υ	Υ	Υ	Υ	Υ	R	R	-R→	–R→	
PHASE 4	R	R	R	R	R	G	G	-G <b>→</b>	-G <b>→</b>	ÅΗ
4 CHANGE	R	R	R	R	R	Υ	Υ	Y→	-Y <b>→</b>	( ⊢
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL⁄ -R→	FL∕ –R→	

# Wiring Diagram



<u>KEY</u>

VIDEO DETECTOR CABLE

2-CONDUCTOR TRAY CABLE (NO. 12 A.W.G.)

5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)

7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)

BARE COPPER GROUND WIRE (NO. 6 A.W.G.)

1-CONDUCTOR (NO. 8 A.W.G.) (2 PIECES) FOR TRAFFIC SIGNAL ELECTRICAL SERVICE

EXISTING INTERCONNECT CABLE MD 32 WB RAMPS - MD 32 EB RAMPS RUN

EXISTING INTERCONNECT CLBLE MD 32 WB RAMPS - GRACE DRIVE/ SIMPSON

EXISTING 2-CONDUCTOR CABLE (ALUMINUM SHIELDED)

MILL ROAD RUN

\* EXISTING 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)

ELW { EXISTING LOOP DETECTOR WIRE

EXISTING UNDERGROUND ELECTRICAL SERVICE BY BGE

PROPOSED PHONE SERVICE BY VERIZON

EXISTING GROUNDING ROD

★ { PROPOSED GROUNDING ROD

#### GENERAL NOTES

- 1. VIDEO CAMERA LOCATION/ALIGNING SHALL BE COORDINATED WITH THE SHA ENGINEER. 2. THE CONTRACTOR SHALL VERIFY ALL PROPOSED POLE AND CABINET LOCATIONS PRIOR TO INSTALLATION.
- 3. PAVEMENT MARKINGS DETAILED ARE PROPOSED AND ARE TO BE INSTALLED BY THE CC..TRACTOR IN ACCORDANCE WITH MD-SHA STANDARDS. ALL OTHER PAVEMENT MARKINGS ARL TÒ BE CONSIDERED AS EXISTING.
- 4. GEOMETRICS SHALL BE CONFIRMED PRIOR TO THE INSTALLATION OF SIGNAL EQUIPMENT. ALL TRAFFIC SIGNAL FOUNDATIONS SHALL BE INSTALLED AT FINAL SIDEWALK OR CURB GRADE FOR CLOSED SECTIONS, HIGHEST ROADWAY FOOFILE GRADE FOR OPEN SECTIONS. TO MEET CLEARANCES AS SPECIFIED IN MD 816.03, MD 818.01, MD 818.02 MD 818.04. THE CONTRACTOR SHALL VERIFY ULTIMATE GRADES PRIOR TO THE INSTALLATION OF ALL SIGNAL EQUIPMENT
- 5. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC AND ARE NUT TO BE CONSIDERED COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION SO THAT ALL " LITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A TRIFLICT BETWEEN THE SUTILITIES AND THE TRAFFIC SIGNAL EQUIPMENT WILL OCC. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE PROJECT ENGINEER IMMEDIATELY.
- 6. ALL UNUSED CABLE SHALL BE REMOVED.

#### MD-AMD Tracking No.: 11APHO013



STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF TRAFFIC & SAFETY TRAFFIC ENGINEERING DESIGN DIVISION

CEDAR LANE/SANNER ROAD AND MD 32 W/B RAMPS

COUNTY \_\_\_\_

HOWARD

13003207.47

SHEET NO. 4 OF 11

L729

COLUMBIA, MD

### GENERAL INFORMATION PLAN SCALE N/A DATE March 5, 20,3 CONTRACT NO. BW996M82

DESIGNED BY FRANK HOECKEL DRAWN BY FRANK HOECKEL CHECKED BY Waldel

TS NO. GI-3234A

F.A.P. NO. \_ \_\_\_ TOD NO. \_\_\_\_\_\_

DRAWING SG - 04 OF C4

PLOTTED: Tuesday, March 05, 2013 AT 07:38 AM FILE: F:\2008\2008-0531\DES\Simpson Mills\TS-MD 32- Cer'ar LA-.dgn



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